## Hepatitis B Virus Nomenclature and Interpretation of Laboratory Tests

HBV Hepatitis B virus. Etiologic agent of "serum" hepatitis.

HBsAg Hepatitis B surface antigen. Surface antigen(s) of HBV detectable in serum.

HBeAg Hepatitis B e antigen. A marker of the core of the virus. Correlates with HBV replication:

implies high titer HBV in serum and infectivity of serum.

HBcAg Hepatitis B core antigen. No commercial test available because it is not freely found in serum.

anti-HBs Antibody to HBsAg. Indicates past infection with and immunity to HBV, or passive antibody

from HBIG, or immune response from HBV vaccine.

anti-HBe Antibody to HBeAg. Presence in serum of HBsAg carrier indicates lower titer of HBV.

anti-HBc Antibody to HBcAg. May indicate past infection with HBV at some undefined time or an

ongoing infection.

IgM anti-HBc IgM class antibody to HBcAg. Indicates recent infection with HBV; detectable for 4-6 months

after infection.

IgG anti-HBc IgG class antibody to HBcAg. Indicates non-recent infection with HBV; present more than 4-6

months after acute infection. Its isolated presence does not imply immunity and may be

consistent with ongoing infection.

**HBIG** Hepatitis B immune globulin. Contains high-titer antibodies to HBV.

INTERPRETATION OF THE HEPATITIS B PROFILE RESULTS			
PROFILE RESULTS		INTERPRETATION	RECOMMENDATION*
HBsAg anti-HBc anti-HBs	negative negative negative	Susceptible	Vaccinate
HBsAg anti-HBc anti-HBs	negative positive or negative positive	Immune	Vaccination not indicated
HBsAg anti-HBc anti-HBs	positive positive or negative negative	Acutely infected or chronic carrier	Vaccination not indicated
HBsAg anti-HBc anti-HBs HBeAg	positive positive or negative negative positive or negative	Acutely infected or chronic carrier (presence of HBeAg correlates with higher infectiousness)	Vaccination not indicated
HBsAg anti-HBc anti-HBs	negative positive negative	Multiple interpretations possible: See below.**	Vaccinate (unless patient is recovering from acute infection)

<sup>\*</sup>Vaccinate according to current ACIP recommendations

- 1. May be recovering from acute HBV infection (vaccination not indicated).
- 2. May be distantly immune and test not sensitive enough to detect very low level of anti-HBs in serum.
- 3. May be undetectable level of HBsAg present in the serum and the person is actually a carrier (acute or chronic).
- 4. May be susceptible with a false positive anti-HBc.

<sup>\*\*</sup>If a person is only positive for anti-HBc while negative for HBsAg and anti-HBs, there are 4 possible explanations: